

SUBSTITUTE FORM PTO-1390		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY'S DOCKET NUMBER 08846-076001
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371		U.S. APPLICATION NO. (IF KNOWN) 09/508229	
INTERNATIONAL APPLICATION NO. PCT/EP99/04407	INTERNATIONAL FILING DATE June 24, 1999	PRIORITY DATE CLAIMED July 20, 1998	
TITLE OF INVENTION WATERPROOF CLADDING			
APPLICANT(S) FOR DO/EO/US Rolf BRANDENBERGER, Knut Finn GARSHOL, Tom Arild MELBYE and Peter Alexander SCHUBERT			
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:			
<p>1. <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a filing under 35 U.S.C. 371.</p> <p>2. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371.</p> <p>3. <input checked="" type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).</p> <p>4. <input checked="" type="checkbox"/> A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.</p> <p>5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2)) a. <input type="checkbox"/> is transmitted herewith (required only if not transmitted by the International Bureau). b. <input checked="" type="checkbox"/> has been transmitted by the International Bureau. c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US).</p> <p>6. <input type="checkbox"/> A translation of amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(2)).</p> <p>7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) a. <input type="checkbox"/> are transmitted herewith (required only if not transmitted by the International Bureau). b. <input type="checkbox"/> have been transmitted by the International Bureau. c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. d. <input checked="" type="checkbox"/> have not been made and will not be made.</p> <p>8. <input type="checkbox"/> A translation of amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).</p> <p>9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)) (UNSIGNED).</p> <p>10. <input type="checkbox"/> A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).</p>			
<i>Items 11. to 16. below concern other documents or information included:</i> <p>11. <input checked="" type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98.</p> <p>12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.</p> <p>13. <input checked="" type="checkbox"/> A FIRST preliminary amendment. <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment.</p> <p>14. <input type="checkbox"/> A substitute specification.</p> <p>15. <input type="checkbox"/> A change of power of attorney and/or address letter.</p> <p>16. <input checked="" type="checkbox"/> Other items or information: <input checked="" type="checkbox"/> Copy of PCT Request <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </p>			
<p>"EXPRESS MAIL" Mailing Label Number <u>EE647184348US</u></p> <p>Date of Deposit <u>March 8, 2000</u> I hereby certify under 37 CFR 1.10 that this correspondence is being deposited with the United States Postal Service as "Express Mail Post Office To Addressee" with sufficient postage on the date indicated above and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.</p> <p><u>Francois Röhl</u> <u>François Röhl</u></p>			

U.S. APPLICATION NO. (IF KNOWN) 09/508229	INTERNATIONAL APPLICATION NO. PCT/EP99/04407	ATTORNEY'S DOCKET NUMBER 08846-076001	
17. <input checked="" type="checkbox"/> The following fees are submitted:		CALCULATIONS	PTO USE ONLY
Basic National Fee (37 CFR 1.492(a)(1)-(5)):			
Search report has been prepared by the EPO or JPO		\$840	\$0.00
International preliminary examination fee paid to USPTO (37 CFR 1.482) ..		\$670	\$0.00
No international preliminary examination fee paid to USPTO (37 CFR 1.482) but international search fee paid to USPTO (37 CFR 1.445(a)(2))....		\$690	\$0.00
Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO		\$970	\$970.00
International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(2) to (4)		\$96	\$0.00
ENTER APPROPRIATE BASIC FEE AMOUNT			
Surcharge of \$130 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input checked="" type="checkbox"/> 30 mos. from the earliest claimed priority date (37 CFR 1.492(e)).		\$0.00	
Claims	Number Filed	Number Extra	Rate
Total Claims	15 - 20	0	x \$18
Independent Claims	3 - 3	0	x \$78
Multiple Dependent Claims(s) (if applicable)			+ \$260
TOTAL OF ABOVE CALCULATIONS			
Reduction by ½ for filing by small entity, if applicable. Verified Small Entity Statement must also be filed. (Note 37 CFR 1.9, 1.27, 1.28.)		\$0.00	
SUBTOTAL		\$970.00	
Processing fee of \$130 for furnishing the English Translation later than <input type="checkbox"/> 20 <input checked="" type="checkbox"/> 30 mos. from the earliest claimed priority date (37 CFR 1.492(f))		\$0.00	
TOTAL NATIONAL FEE		\$970.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31).		\$0.00	
TOTAL FEES ENCLOSED		\$970.00	
		Amount to be refunded	
		Charged	
a. <input checked="" type="checkbox"/>	A check in the amount of \$970.00 to cover the above fees is enclosed.		
b. <input type="checkbox"/>	Please charge my Deposit Account No. 06-1050 in the amount of \$0.00 to cover the above fees. A duplicate copy of this sheet is enclosed.		
c. <input checked="" type="checkbox"/>	The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 06-1050. A duplicate copy of this sheet is enclosed.		
NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b) must be filed and granted to restore the application to pending status.			
SEND ALL CORRESPONDENCE TO:			
Andrew N. Parfomak FISH & RICHARDSON P.C. 45 Rockefeller Plaza, Suite 2800 New York, NY 10111 (212) 765-5070 phone (212) 258-2291 facsimile		 SIGNATURE	
		Andrew N. Parfomak NAME	
Date: <u>March 8, 2000</u>	REGISTRATION NUMBER <u>32,431</u>		
30011310.doc			

09/508229

514 Rec'd PCT/PTO 08 MAR 2000

Certificate of Express Mailing:

I, the undersigned hereby certify that this paper has been deposited with the United States Postal Service with sufficient postage as USPS Express Mail (Label No. EEL47184348US) and is addressed to the "Commissioner of Patents and Trademarks, Washington DC 20231" on:

Frances Rolf
Frances Rolf

March 8, 2000
Dated:

Attorney File Ref: 08846/076001

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Rolf BRANDENBERGER, et al.

Serial No.: -- to be assigned – (based on
PCT/EP99/04407)

Filed: 08.Mar.2000

Art Unit: -- to be assigned --

Examiner: -- to be assigned --

For: **WATERPROOF CLADDING**

Assistant Commissioner for Patents and Trademarks
Washington, DC 20231

08.March.2000

PRELIMINARY AMENDMENT

This paper is being contemporaneously filed as the application papers in the above identified application. Entry of the amendments presented herein, consideration of the accompanying remarks, and reconsideration of the grounds of rejection is respectfully requested.

IN THE CLAIMS:

Please enter the following amendments to the outstanding claims:

1.(Amended) A cladding on a partially-overhanging substrate which comprises, in sequence starting from the substrate;

[(i)] a drainage means;

[(iii)] a waterproofing membrane which has been applied thereto by spraying; and
[(iv)] a layer of concrete.

3.(Amended) A cladding according to claim 1 [or claim 2,] wherein the drainage means is a plastics mesh to that side [aide] of which remote from the substrate is applied on at least partially waterproof layer.

4.(Amended) A cladding according to claim 1 [any one of claims 1-3,] wherein the waterproofing membrane is a plastics material applied by spraying and whose surface is configured so that anchoring means for subsequently-applied layers is provided.

5.(Amended) A cladding according to claim 1 [any one of claims 1.4,] wherein the waterproofing membrane is a layer of coalesced particles of thermoplastic polymer formed from a sprayed aqueous dispersion.

6.(Amended) A cladding according to claim 1 [any one of claims 1-5,] wherein the layer of concrete is applied by spraying.

8.(Amended) A method of providing a waterproof cladding on a partially-overhanging substrate, comprising the application to the substrate of the following elements in sequence;

- [(i)] a drainage means;
- [(iii)] a waterproofing membrane, applied by spraying; and
- [(iv)] a layer of concrete.

Please add the following new claims to the application:

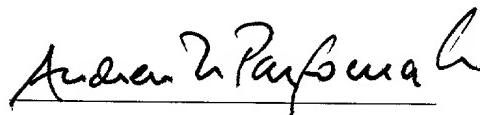
- DRAFT
10. A method of providing a waterproof cladding on a partially-overhanging substrate according to claim 8, wherein the substrate is given an initial layer of concrete.
 11. A method of providing a waterproof cladding on a partially-overhanging substrate according to claim 8, wherein the drainage means is a plastics mesh to that side [aide] of which remote from the substrate is applied on at least partially waterproof layer.
 12. A method of providing a waterproof cladding on a partially-overhanging substrate according to claim 8, wherein the waterproofing membrane is a plastics material applied by spraying and whose surface is configured so that anchoring means for subsequently-applied layers is provided.
 13. A method of providing a waterproof cladding on a partially-overhanging substrate according to claim 8, wherein the waterproofing membrane is a layer of coalesced particles of thermoplastic polymer formed from a sprayed aqueous dispersion.
 14. A method of providing a waterproof cladding on a partially-overhanging substrate according to claim 8, wherein the layer of concrete is applied by spraying.
 15. A method of providing a waterproof cladding on a partially-overhanging substrate according to claim 8, wherein the sprayed concrete comprises reinforcing fibres.

REMARKS:

The amendments being entered to the claims remove multiple dependencies from the PCT application, as well as rendering the claims in a form more amenable to US practice. The new claims are directed to further subject matter described in the specification as filed, although not claimed in the PCT application. No new matter is being entered by any of these amendments.

Should the Office believe that telephonic communication would advance the prosecution of the instant application, they are invited to telephone the undersigned at the number given below.

Respectfully Submitted:



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WATERPROOF CLADDING

This invention relates to the cladding of partially-overhanging substrates.

- 5 By "partially-overhanging substrates" is meant simply a substrate part of which overhangs. One example is a tunnel bored in rock, which has an overhanging roof and non-overhanging walls, but the substrate can equally well be a construction, for example, an arch of concrete, brick, stone or other material.
- 10 The exposed rock surfaces of tunnels often require cladding, this cladding generally being concrete, which may be sprayed (so-called "shotcrete"), cast in formwork or placed in prefabricated sections which are then grouted. One of the problems frequently encountered is water coming through and running down the substrate during the construction. The standard way of dealing with this problem is the application to the substrate of a drainage means. This is simply something which provides on the substrate a plurality of drainage channels, so that the water is directed away from the substrate to provided drainage outlets. The sequence therefore is usually as follows; apply a drainage means, followed by a waterproof membrane, followed by a final layer of concrete.
- 15
- 20 The drainage means known to the art can take various physical forms. One popular type comprises an open mesh made of plastics material, this being generally supplemented by an at least partially waterproof covering sheet to help direct the water to the provided drainage outlets and prevent it, in the case of high water flow, from running straight through. Another common type is a sheet of plastics material (typically of PVC or PE) which provides drainage channels. In one such material, the sheet comprises grooves through which water can run. In another variant, there is formed on the sheet a series of depressions which appear as protrusions on the other side of the sheet. These protrusions hold the sheet off the substrate and allow water drainage. Such drainage means are fixed to the substrate by any convenient means (adhesive, nails, rock anchors).
- 25
- 30 To this drainage means is usually attached a waterproof membrane. This is generally a series of overlapping sheets of thermoplastic material which is applied to the drainage

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means and secured in place by melting the sheet around bolts previously applied through the drainage means into the rock for this purpose, the sheets then being joined by welding to form a single waterproof sheet. A final layer of concrete is applied to them by any of the methods hereinabove described.

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In practice, this method suffers from a variety of drawbacks. It is difficult to weld the thermoplastic sheets together with complete success, so that there can be imperfect joins where water can come through. Moreover, such sheets may be damaged in handling and application and consequently suffer from leaks. In any case, the work of applying such 10 sheets is time-consuming and difficult in a tunnel, as is the work of erecting the drainage means itself. In all cases, where other fixtures such as railway catenary supports are required, either these have to be driven through the drainage means into the rock (thereby providing a potential point of water entry), or the final concrete layer must itself be strong enough to support them, which usually means using a thickness of concrete not otherwise 15 required.

It has now been found that such water problems can be substantially or even completely overcome by a particular structure. This invention therefore provides a cladding on a partially-overhanging substrate which comprises, in sequence starting from the substrate;

20

- (i) a drainage means;
- (iii) a waterproofing membrane which has been applied thereto by spraying; and
- (iv) a layer of concrete.

25 The invention further provides a method of providing a waterproof cladding on a partially-overhanging substrate, comprising the application to the substrate of the following elements in sequence;

- (i) a drainage means;
- (iii) a waterproofing membrane, applied by spraying; and
- (iv) a layer of concrete.

In a preferred embodiment of the invention, the substrate is given an initial layer of concrete. This is especially important when the substrate is rough, for example, as a result of blasting, and it preferably applied by means of spraying. Although it can also be done by casting or placing of prefabricated sections, shotcreting has the advantage that it conforms

- 5 more exactly to the wall while providing a desirable smoother surface for the fixing of drainage means. This makes the final cladding essentially a single unit with the wall, enhancing its strength and making possible a cladding with substantially less material than formerly used.

- 10 The drainage means may be selected from any of the means of this type known to the art. A typical example is a plastics mesh to which is applied (to that side remote from the substrate) an at least partially waterproof layer. A particularly good variety of this type is a mesh to which is fixed a thin plastics impermeable sheet, on the other side of which sheet is a fibrous layer which assists in the bonding of the waterproofing membrane hereinunder described. However, there are many other types possible, and any of the art-recognised 15 types are acceptable.

- A preferred drainage means consists of two layers of "geotextile", fibrous materials of the type hereinabove described, between which is a waterproof film. Preferably the geotextile 20 against the rock is hydrophobic and that further removed from the rock is hydrophilic. The hydrophobic layer helps repel water and the hydrophilic layer allows a water-based sprayable membrane to penetrate well and bond thoroughly as further described hereinunder, thus helping create a composite structure. This means is supplied as a single material, a so-called "drainage fleece". Any kind of sprayable membrane is useful in the 25 working of this invention.

- One particularly useful type of sprayable membrane is the membrane described in International Application WO 97/25484 the contents of which are incorporated herein by reference. In this case, it is a plastics material applied by spraying (a thermosetting 30 polyurethane is described), the surface of this layer being configured in order to provide anchoring means for subsequently applied layers. This is done typically by mechanically

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deforming the surface before it hardens fully, or by embedding therein solid material such as stone chips.

Another particularly useful type of sprayable membrane is described in International

5 Application WO 98/24738, the contents of which are incorporated herein by reference. In this case, the membrane is formed from a layer of coalesced particles of thermoplastic polymer laid down from an aqueous dispersion. Polyurethanes, polyesters and vinyls may be used, but the preferred materials are addition polymers of ethylenically-unsaturated monomers, more preferably, those having a glass transition temperature (Tg) of below

10 15°C, even more preferably below -15°C.

The weight solids contents of the aqueous dispersions from which the membranes are formed typically lie within the range of 30-60%. Specific examples of suitable materials include polyurethanes, styrene-butadiene copolymers, ABS (acrylonitrile-butadiene-

15 styrene) polymers, acrylonitrile-butadiene copolymers, styrene-acrylic copolymers, polysulphide dispersions, polyurethane-acrylic dispersions, polyisoprene and PVC latexes and copolymers of vinyl chloride and/or vinyl acetate with acrylic monomers such as (meth)acrylic acid and esters thereof. Materials such as bitumen emulsions may be used in conjunction with these materials, but as such materials do not coalesce, they should not

20 comprise more than 50% by weight solids of the binder. This list is not exhaustive, and the skilled person equipped within the concept of this invention will readily be able to identify other suitable materials. Many such materials are available commercially and examples of suitable commercial materials include those sold by BASF AG under the mark "Acronal" and those sold by Synthomer under the trade mark "Synthomer".

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In addition to the aqueous dispersion, the composition may include other ingredients. One especially useful ingredient is filler. This not only "extends" the composition, but also roughens the surface, thus providing a "key" for a subsequently applied cementitious composition. Its presence is preferred. Typical examples of suitable fillers include quartz sand and quartz flour of average diameters in the range of from 0.04-1.5 mm, as well as dolomite, talc, mica, barytes, iron oxide, titanium dioxide, rubber and plastics granules,

- 5 -

lightweighted aggregates and glassy furnace residues such as "holospheres". Fibres of steel, glass or polymeric material can also be used, preferred examples of polymeric fibre being those of thermoplastic material, especially polyethylene and polyacrylonitrile, preferably with lengths of from 0.2-12 mm and surface area of from 6-8 m²/g.

5

Sprayable membranes confer good waterproofness, but cannot be used on a substrate on which there is running water. The combination of drainage means and waterproofing membranes overcomes this difficulty and gives an especially versatile and high-performing system. This is largely because the two components, drainage means and sprayable membrane, become in effect a single composite entity. The invention therefore also provides a composite waterproofing system for application to surfaces, consisting of a drainage means as hereinabove defined and a sprayed waterproof membrane. In addition, fixtures can be added before the membrane spraying and the subsequent membrane spraying will ensure that the penetration of the fixture through the drainage means remains watertight. This means that a subsequent layer of concrete need not be load-bearing and therefore can be much thinner than would otherwise be the case.

10

To the surface of the membrane is applied a layer of concrete. This can be done by any convenient means, but ideally by spraying. Spraying brings many advantages. For example, the layer conforms with the membrane and forms with it, the drainage means, the substrate and, if applied, any initial concrete layer a single composite entity, thus enhancing the benefits of the composite waterproofing system hereinabove described. This is very strong and reduces substantially the quantities of concrete needed. For example, using prior art-recognised methods, a final concrete layer would need to be typically 25 cm. thick. When this invention is used, a layer may be as low as 5 cm. thick, representing a significant saving in time, money and material. In addition, application methods such as casting require not only complex formwork, but also reinforcing grids. The sprayed concrete does not need this, it being possible, if desired, to provide fibre reinforcement in the concrete mix itself by the inclusion of fibres.

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A further important characteristic is that the continuous bond between the sprayed membrane and the final shotcrete layer prevents what often happens on sheet-based systems, namely the movement of water along the membrane-shotcrete interface from the point of actual leakage and its eventual appearance tens of metres from that point. In the 5 system of the present invention, any leakage will take place at the point of leakage itself, and can be easily repaired.

The invention is useful primarily in tunnelling, but it may also be used in free-standing completely artificial structures which comprise partial overhangs of the type hereinabove 10 described, for example, arches of concrete, brick, stone or other such material. In comparison with the art-recognised methods, it is simpler to use, it provides better results and it requires less material and time.

The invention will now be described with reference to the accompanying drawing which 15 depicts a schematic cross-sectional view of a preferred embodiment. In this drawing, the dimensions of some elements have been exaggerated to make clear the nature of the construction.

In the drawing, the invention has been applied to a rock wall 1 of a bored tunnel. To this 20 rock wall is applied an initial layer of shotcrete 2. To this is then applied a drainage fleece, generally designated as 3. This drainage means consists of three elements, a fibrous, hydrophobic sheet 4, a waterproof film 5 and a fibrous hydrophilic sheet 6, the three being combined in a single sheet and secured to the shotcrete layer 2 by means of nails 7 whose heads protrude slightly from the drainage means. The nails additionally comprise fleece 25 retaining means 8, preferably of plastics material, which comprise shanks which are a tight fit on the nails 7 and comparatively large roundels which press the fleece against shotcrete layer 2. The fibrous sheet 6 and the nail heads help a subsequent sprayed membrane 9 to bond more securely to the drainage means.

30 To the drainage means is applied by spraying a waterproofing membrane 9, the composition of which is

	polymer dispersion ¹	30 parts by weight
	barytes	27 " " "
	calcium carbonate	42.5 " " "
5	titanium dioxide	0.5 " " "
	1. styrene-acrylic ester copolymer emulsion 50% solids by weight ("Acronal") (trade mark) S361 (ex BASF))	

This corresponds to Example 1 of WO 98/24738.

- 10 Finally, a layer of reinforcing fibre-containing shotcrete 10 is applied.

The shotcrete formulation useful in this application may be any such formulation useful in such an application. In addition, the skilled person will readily appreciate that there are possible many variations in both materials and methods which fall within the scope of the 15 invention. For example, should enhanced load-bearing strength be needed, the nails 7, depicted in the drawing as being covered by the sprayed membrane 9, may protrude through it and into the shotcrete layer 10. The nail heads provide a "key" which supplements the excellent bonding of the shotcrete to the membrane.

- 20 In another embodiment, the hydrophobic fibrous sheet may be replaced by a plastics grid which has the form of two parallel sets of elongate intersecting elements, one set resting on the surface of shotcrete layer 2 and spacing the other set from it, thus defining a plurality of drainage channels. The waterproof plastics sheet 5 is advantageously of the same plastics material.

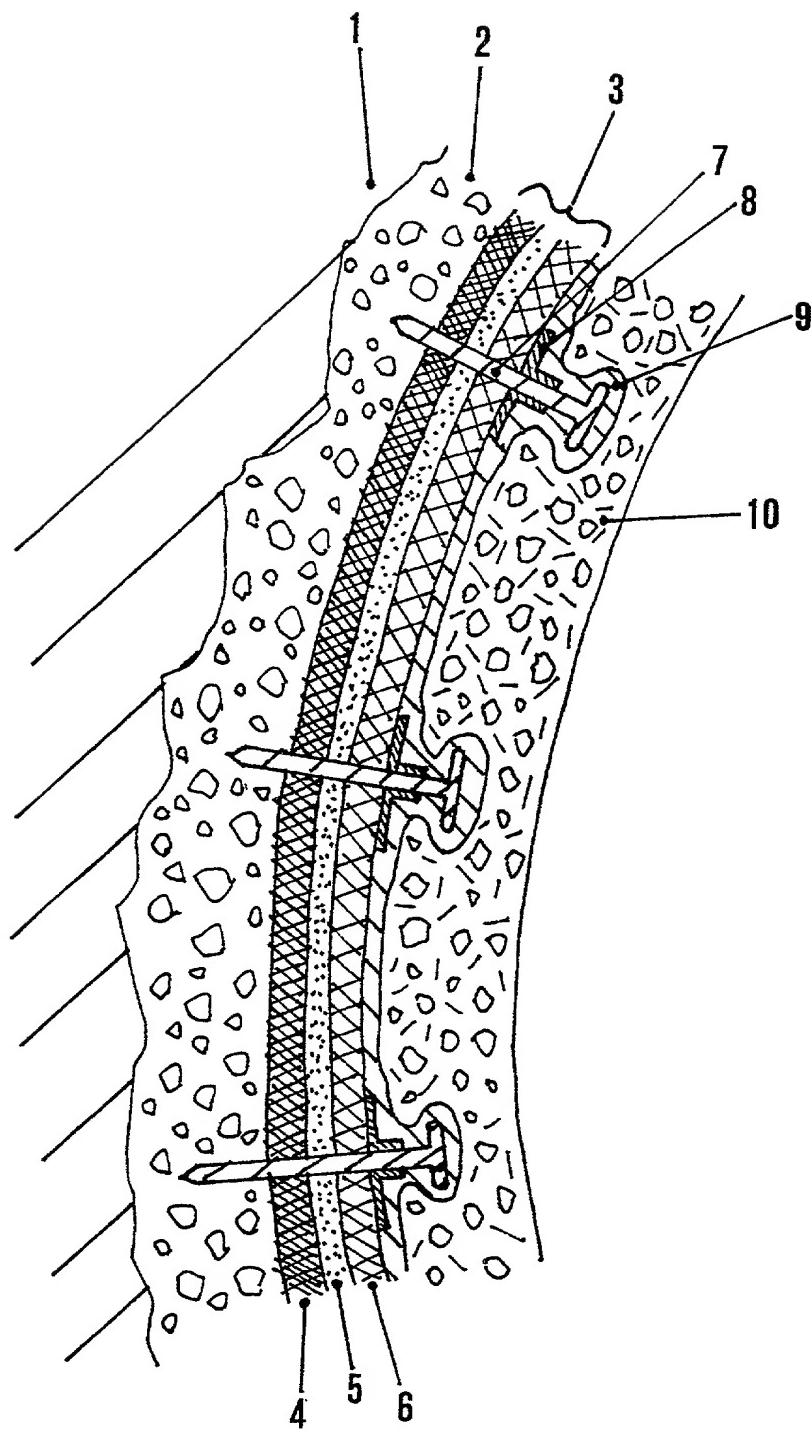
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CLAIMS

1. A cladding on a partially-overhanging substrate which comprises, in sequence starting from the substrate;
 - 5 (i) a drainage means;
 - (iii) a waterproofing membrane which has been applied thereto by spraying; and
 - (iv) a layer of concrete.
- 10 2. A cladding according to claim 1, wherein the substrate is given an initial layer of concrete.
- 15 3. A cladding according to claim 1 or claim 2, wherein the drainage means is a plastics mesh to that aide of which remote from the substrate is applied on at least partially waterproof layer.
- 20 4. A cladding according to any one of claims 1-3, wherein the waterproofing membrane is a plastics material applied by spraying and whose surface is configured so that anchoring means for subsequently-applied layers is provided.
- 25 5. A cladding according to any one of claims 1-4, wherein the waterproofing membrane is a layer of coalesced particles of thermoplastic polymer formed from a sprayed aqueous dispersion.
6. A cladding according to any one of claims 1-5, wherein the layer of concrete is applied by spraying.
- 30 7. A cladding according to claim 6, wherein the sprayed concrete comprises reinforcing fibres.

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8. A method of providing a waterproof cladding on a partially-overhanging substrate, comprising the application to the substrate of the following elements in sequence;
 - (i) a drainage means;
 - 5 (iii) a waterproofing membrane, applied by spraying; and
 - (iv) a layer of concrete.
9. A composite waterproofing system for application to surfaces, consisting of a drainage means and a sprayed waterproof membrane.



COMBINED DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled WATERPROOF CLADDING, the specification of which:

is attached hereto.

was filed on _____ as Application Serial No. _____ and was amended on _____.

was described and claimed in PCT International Application No. PCT/EP99/04407 filed on 24 June 1999 and as amended under PCT Article 19 on _____.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose all information I know to be material to patentability in accordance with Title 37, Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

Country	Application No.	Filing Date	Priority Claimed
Great Britain	9815685.4	20 July 1998	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

I hereby appoint the following attorneys and/or agents to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patents issued thereon.

Combined Declaration and Power of Attorney
Page 2 of 2 Pages

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Combined Declaration and Power of Attorney

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COMBINED DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled WATERPROOF CLADDING, the specification of which:

- is attached hereto.
- was filed on _____ as Application Serial No. _____ and was amended on _____.
- was described and claimed in PCT International Application No. PCT/EP99/04407 filed on 24 June 1999 and as amended under PCT Article 19 on _____.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose all information I know to be material to patentability in accordance with Title 37, Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

Country	Application No.	Filing Date	Priority Claimed
Great Britain	9815685.4	20 July 1998	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

I hereby appoint the following attorneys and/or agents to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patents issued thereon.

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